

C H A P T E R

2

CHAPTER 2

PROPOSED ACTION AND ALTERNATIVES

INTRODUCTION

Four alternatives are considered and analyzed in this document:

- No Action Alternative (Present Management)
- RAC Alternative (Proposed Action)
- County Alternative
- Fallback Alternative

The proposed action or alternatives, if selected and approved could be implemented and, would amend all the RMPs in New Mexico by adopting the standards and guidelines approved through the NEPA process. The livestock grazing regulations require that land health standards and livestock grazing guidelines be used for future management; therefore, continuing with present management is not an option. Additionally, during the preparation of this document the August 12, 1997 deadline relating to the fallback standards and guidelines elapsed. Therefore, fallback standards are now in place. However, management that was occurring when this document was initiated is reflected as the No Action Alternative. The No-Action Alternative serves as a bench mark on which to compare the alternatives that have been proposed. Appendix B-1 presents a summary of the present decisions in the RMPs that would be affected by adopting the Proposed Action, the County Alternative, or the Fallback Alternative. (There are many other decisions in the RMPs that are not affected; these decisions are not shown.)

The following is a detailed description of each of the alternatives.

NO ACTION ALTERNATIVE (PRESENT MANAGEMENT)

Standards For Public Land Health

Although BLM does not have an established standard identified, the ecological site and late seral condition are the standards generally utilized as the goal for management. The ecological site serves as the

mapping unit and database for rangeland information. The Natural Resource Conservation Service (NRCS-- formerly the Soil Conservation Service) developed a National Range Handbook as a guide to using the range site as the mapping and descriptive unit for rangelands. In 1982, the BLM also adopted the range site inventory procedure. In 1994, the BLM replaced the range site with the ecological site, to be consistent with the updated procedures of the NRCS. Under this alternative for rangeland management in New Mexico, the ecological site would continue to be the base unit for rangeland management, and late seral condition would be used as a management target.

Guidelines for Livestock Grazing

The BLM is responsible for resolving rangeland issues. When there are livestock grazing issues that need to be resolved, BLM takes appropriate and timely action. To make necessary adjustments it may implement a livestock grazing plan or adjust the terms and conditions of the permit or lease.

Livestock grazing plans are developed based on priorities set by following RMP decisions. These livestock grazing plans developed either by the BLM or NRCS (NRCS takes the lead when less than 50 percent of the allotment is public land). These plans are developed in consultation, coordination, and cooperation as directed by PRIA. Regardless of the agency that develops these livestock grazing plans, they must accomplish the following:

- include the terms and conditions of the permit
- describe the desired resource condition
- prescribe the livestock grazing practices that will be used to meet the desired resource condition
- specify the flexibility of the plan, and provide for monitoring

The lead agency (BLM or NRCS) then completes a NEPA environmental assessment prior to approval of the livestock grazing plan.

As mentioned previously, the plan must provide for monitoring. BLM relies on basic rangeland studies to monitor grazing allotments that include recording precipitation, trend (plot photos and periodic measurements for plant composition and ground cover), actual use by livestock, and forage utilization. Depending on the resource objectives, other appropriate methods of monitoring are used.

After the allotment monitoring results are collected, BLM reviews and evaluates the data and files them in the study file for that allotment. Periodically, or upon request, the livestock grazing plan and results of monitoring may be evaluated to determine if the plan is consistent with management objectives of both the individual rancher and BLM for rangeland health or sustainability.

Types of adjustments that might be made on the allotment after evaluation could include time of year and duration of livestock use, number or kind of livestock, or other existing livestock management practices. Any adjustments are made in consultation with the permittee and other interested public.

Additional monitoring may be conducted by BLM as conditions warrant and resources are available. Allotments determined as high priority are monitored even if the grazing plan is not complete. Allotments not determined as high priority only receive periodic field observations.

RAC (PROPOSED ACTION) ALTERNATIVE

The RAC Alternative was developed locally by the New Mexico Resource Advisory Council (RAC), with public input from a variety of interested publics.

Standards for Public Land Health

Upland Sites Standard

Upland ecological sites are in a productive and upland ecological sites are in a productive and sustainable condition within the capability of the site. Upland soils are stabilized and exhibit infiltration and permeability rates that are appropriate for the soil type, climate, and landform. The kind, amount, and/or pattern of vegetation provides protection on a given site

to minimize erosion and assist in meeting water quality standards.

Indicators for this standard may include but are not limited to:

- Consistent with the capability of the ecological site, soils are stabilized by appropriate amounts of standing live vegetation, protective litter and/or rock cover.
- Erosion is indicated by flow patterns characteristics of surface litter soil movement, gullies and rills, and plant pedestalling
- Satisfactory plant protection is indicated by the amount and distribution of desired species necessary to prevent accelerated erosion.

Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard

Ecological processes support productive and diverse biotic communities, including special status, threatened, and endangered species appropriate to site and species.

Desired plant community goals are met to maintain and conserve productive and diverse populations of plants and animals which sustain ecological functions and processes.

Indicators for this standard may include but are not limited to the following:

- Commensurate with the capability of the ecological site, plant and animal populations are:
 - Productive
 - Resilient
 - Diverse
 - Sustainable.
- Landscapes are composed of communities in a variety of successional stages and patterns.

- Diversity and composition of communities are indicated by the kinds and amount of species.
- Endangered and special status species are secure and recovering. With the goal of delisting and ensuring that additional species need not be listed within New Mexico.

Riparian Sites Standard

Riparian areas are in a productive and sustainable condition, within the capability of that site.

Meaning That:

Adequate vegetation of diverse age and composition is present that will withstand high streamflow, capture sediment, provide for groundwater recharge, provide habitat and assist in meeting water quality standards.

As Indicated By:

Indicators for this standard may include but are not limited to:

- Stream channel stability as determined by:
 - Gradient
 - Width/depth ratio
 - Channel roughness
 - Sinuosity.
- Streambank stability as determined by:
 - Shearing and sloughing
 - Vegetative cover on the bank.
- Appropriate riparian vegetation includes a mix of communities comprised of species with a range of:
 - Age
 - Density
 - Growth form.

Human Dimension Standard

Economic, social and cultural (Human Dimension) elements are integral components of public land management.

Meaning That:

When engaged in NEPA and RMP planning and decision-making for public land management, the New Mexico BLM in consultation with state, tribal, local governments, individuals, and other concerned public and private organizations will use available means and measures to create and maintain conditions under which people and nature co-exist in productive harmony. Consideration of the economic, historical, cultural, and social welfare of the permittees, lessees, other affected interests, and local communities, to maintain productive and sustainable ecological sites for present and future generations of Americans.

As Indicated By:

Indicators for this standard may include but are not limited to:

Efforts at conflict resolution, negotiation and communication. Formal and informal agreements and partnerships with private landowners and others.

Consider the following factors:

Economic (income, tax base, related services, and risk assessment);

Social (community stability, aesthetics, values and population change);

Cultural (customs or traditions, values and sense of community).

Guidelines for Livestock Grazing

Guidelines are any reasonable and practical management options which, when applied, move rangelands toward statewide standards. Guidelines reflect potential for the watershed. Guidelines also balance resource goals contained in RMPs with social,

cultural/historic, and economic opportunities to sustain viable local communities, and to consider recreation and aesthetic values. Guidelines are based on science, past and present management experience, and public input.

These guidelines are for public lands livestock grazing. They do not apply where public lands are deemed unsuitable or not used for livestock grazing. These guidelines will be used to develop grazing management practices that will be developed and implemented at the watershed, allotment, or pasture level.

Specific application of these guidelines (Livestock Grazing Management Practices--LGMPs) will occur at the local level in careful and considered consultation, cooperation and coordination with lessees, permittees, and land owners involved.

New Mexico's intermingled land ownership pattern creates a patchwork of resource management objectives. The resource should be viewed as a whole with full appreciation for this integrated relationship and recognition of the rights of private landowners to enjoy the benefits of that ownership.

Guidelines should encourage innovation and experimentation in the development of alternative livestock grazing management practices to improve rangeland health.

1. LGMPs should promote plant health, and soil stability, water quality, and habitat for wildlife and threatened and endangered species, by providing the following basic requirements of rangeland ecological sites:

- (a) Allow for plant recovery and growth time;
- (b) Allows residual vegetation on both upland and riparian sites to protect the soil from wind and water erosion, support infiltration, and prevent excessive evaporation;
- (c) LGMPs include the use of livestock to:
 - (1) Integrate organic matter into the soil,
 - (2) Distribute seeds and establish seedings,

- (3) Prune vegetation to stimulate growth,
- (4) Enhance infiltration.

(d) Season, duration, frequency and intensity of use should be flexible and consider climate, topography and kind, class and health/condition of livestock.

2. Future livestock management facilities should be located away from natural riparian-wetland areas wherever they conflict with achieving or maintaining the desired future condition.

3. Give priority to rangeland improvements and land treatments that offer the best opportunity for achieving standards.

4. Where LGMPs alone are not likely to achieve the desired plant community (including control of noxious weeds), land management practices including, but not limited to, prescribed fire, biological, mechanical, and chemical land management treatments should be utilized.

5. Native plant species are recommended for rehabilitating disturbed rangeland. Seeding of non-native species will be considered based on local goals, native seed availability, and cost.

6. The public land grazing resources of New Mexico are managed on the basis of multiple use and sustained yield. Livestock grazing produces food and fiber, and contributes to a diverse, balanced, competitive, and resilient economy. Management should provide opportunities for a variety of individual choice and risk taking ventures in a responsible manner. This guideline may include, but is not limited to, consideration of impacts to employment, earnings, per capita income, investment income, federal government payments to the state, tribal and local governments, and tax base.

COUNTY ALTERNATIVE

The standards and guidelines in this alternative were developed through the efforts of the New Mexico members of the Coalition of Arizona/New Mexico Counties. This alternative is printed as it was given to

BLM by the Coalition. BLM agreed to include the alternative for analysis purposes; however, BLM does not necessarily concur with parts or all of the alternative as written. The Coalition stated that the alternative must be evaluated as a whole, not just as parts, to fully understand the alternative.

The definitions listed below were provided by the New Mexico members of the Coalition of Arizona/New Mexico Counties for use with the County Alternative.

Definitions

Desired Plant Community-the designed vegetative mosaic to meet RMP goals as developed through a statutory process that balances resource conservation with individual, social, cultural/historic and economic opportunities to promote, sustain and enhance local communities.

Allotment Grazing Right Owner-Owner of the preference on BLM lands.

Ecological Site-Classification of an area that would be expected to produce a characteristic potential biotic community that has a predictable plant composition and animal production.

Guideline-Guidelines for grazing management are methods and practices to ensure that standards can be met or that progress can be made toward that end.

Production Goals-The level of goods and services, both commodity and non-commodity, expected to be achieved from the management of a given area of land. These are designed to meet statutory requirements and public values as developed at the local level.

Optimum Infiltration-The capture of precipitation based on soil type and geologic conditions measured by the delivery of water to ground and surface sources.

Site Potential-The ability of a particular site to produce various vegetation compositions and production levels as limited by edaphic, climatic, geologic, genetic and topographic factors.

Standard-An acknowledged measure of comparison regarding a resource upon which a judgment or decision is based. Measurements include adequate and

reproducible sampling methods, sampling size and sampling frequency and duration to obtain discrete values for each ecological site within a management area.

Sustainable-Capable of maintaining RMP goals in perpetuity. Sustainable can be equated with proper ecological functioning.

Standard For Public Land Health

Rangeland Health: A satisfactory condition or an upward trend in range condition in an ecological site, with desired plant community and site potential as its basis, measured against established RMP goals, as determined by statutory requirements balanced with the conservation of individual, social and cultural/historic economic opportunities to promote, sustain and enhance local communities.

Grazing Guideline

For the purposes of maintaining or promoting adequate amounts of vegetative cover ground cover, including standing plant material and litter, to support infiltration, maintain soil moisture storage, and stabilize soils; promoting the opportunity for seedling establishment of appropriate plant species when climatic conditions and space allow; and incorporating the use of non-native plant species only in those situations in which native species are not available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health:

- a. Grazing practices should provide for a satisfactory or long-term increasing vegetation and litter cover that will assure erosion and sedimentation levels are acceptable for specific ecological sites.
- b. Grazing practices should provide for a stable or upward long-term vegetal trend as evidenced by photo records, and frequency, cover and composition data.
- c. Actual use studies, actual use numbers and utilization maps continue to be developed and coordinated with vegetal trend data. Rangeland studies will be multi-year to assure validity and account for climatic variations. Until RMP production goals are specifically established and desired plant communities designated, grazing practices should provide for a satisfactory or long term increasing vegetative and litter cover to meet statutory requirements, established uses,

and protection of the soils to not exceed acceptable soil loss tolerances, thereby assuring a full range of options for future land management decisions.

d. Allotment management plans should be mutually developed by the BLM, other agencies with jurisdiction by law and allotment grazing right owner to encourage ungulate distribution to attain desired forage use levels.

e. Management of livestock within special management areas (Wilderness, Wilderness Study Areas, Areas of Critical Environmental Concern and Resource Conservation Areas) should be cooperatively developed with the allotment grazing right owner and/or lessee.

Fundamental Guideline: Management Guidelines are any reasonable and practical management options that move rangelands toward statewide standards. Guidelines are based on long term scientific data and trends, past and present management experience, and public input. Guidelines are developed and implemented at the local or allotment level and should be reflected in the management plan.

State Primacy Considerations

1. The jurisdiction over soil and water resource conditions belong to the New Mexico Soil and Water Conservation Districts (SWCDs). Therefore, the BLM FO Managers should be working closely with the SWCDs in the development of District Area Conservation Plans that focus on site specific soil conditions.

Statutory or Regulatory Reasoning

1. Under 43 CFR §1610.4-4(e) and (g) the agency is required to consider the ability of the resource area to respond to local needs when formulating reasonable alternatives.

2. The Taylor Grazing Act, Granger-Thye Act, Multiple Use Sustained Yield Act, Federal Land Policy Management Act and the Public Rangelands Improvement Act all point to sustained livestock production as the intended primary use of the BLM lands.

These acts also create the requirements to consult, coordinate and cooperate with the State, Tribal, Local governments and the permittee and/or lessee in the development of management actions.

3. The National Environmental Policy Act (NEPA) and Council on Environmental Quality Regulations require notification of and opportunity for State and Local Governments to be parties to Federal Agency decision making. The NEPA regulations also require that cultural, economic and social impacts be investigated and disclosed to the decision maker(s) and the public.

The intent of the NEPA at §101(b)(4) calls for "providing a variety of individual choices."

4. The proposed standard and guidelines exceed the fallback standards and guidelines 43 CFR Ch.11 §4180.2(f); address the minimum standards requirements of 43 CFR Ch.11 §4180.2(d); and address the minimum guidelines requirements of 43 CFR Ch.11 §4180.2(e) and ensure that the conditions set forth in 43 CFR Ch.11 §4180.1(a) through (d) are achieved.

5. As its name suggests, the Taylor Grazing Act established the BLM lands for grazing.

6. Site-specific actions shall be coordinated with the state agencies or any sub-division thereof, to control or contain the targeted undesirable plant species as defined by state or county laws.

Comments

1. In keeping with the definition of standard, this allows for the specifics to be crafted at the local level as they relate to all uses.

2. If the standard is not tied down to the specific goals in the RMP, then all concerned, from the BLM, to the public, to the allotment grazing right owner will not have tangible targets to achieve through management.

Standard

Biotic Community: A satisfactory level of flora and fauna diversity exist for each ecological site with desired plant community and sustainable site potential as its basis, measured against established RMP production goals as determined by statutory requirements balanced with the conservation of individual, social and cultural/historic economic opportunities to promote, sustain and enhance local communities.

Grazing Guidelines

For the purposes of maintaining or promoting the appropriate kinds and amounts of soil organisms, plants and animals to support the hydrologic cycle, nutrient cycle, and energy flow; restoring, maintaining or enhancing habitats to assist in the recovery of Federal threatened and endangered species; restoring, maintaining or enhancing habitats of Federal Proposed, Category 1 and 2 Federal candidate, and other special status species to promote their conservation; maintaining or promoting the physical and biological conditions to sustain native populations and communities; emphasizing native species in the support of ecological function:

- a. Desired plant communities (DPC) should be mutually developed between the agency and the permittee as management targets. Manage existing plant community toward desired plant community recognizing site potential.
- b. Wildlife population trends should be measured by a series of surveys. Use areas, distribution, composition; sex and age ratios and reproductive rates should be established for key species.
- c. The habitats and populations of candidate, sensitive, rare, New Mexico State listed, or other special status categories should be managed in accordance with state law. Determine the role of local populations with respect to national population levels. If special habitat management actions are required the agency should conduct a private sector impact assessment.
- d. Humans are an integral part of the biotic community and safeguards should be taken to promote life, liberty and the pursuit of happiness.
- e. Until RMP production goals are specifically established and desired plant communities designated, grazing practices should provide for a satisfactory or long term increasing vegetative and litter cover to meet statutory requirements, established uses, and protection of the soils to not exceed acceptable soil loss tolerances, thereby assuring a full range of options for future land management decisions.

Fundamental Guideline: Management Guidelines are any reasonable and practical management options that move rangelands toward statewide standards. Guidelines are based on long term scientific data and trends, past and present management experience, and public input. Guidelines are developed and implemented at the local or allotment level and should be reflected in the management plan.

State Primacy Considerations

1. The jurisdiction over the wildlife belongs to the state of New Mexico.
2. Where appropriate the New Mexico Wildlife Conservation Act will be used for the development of recovery plans for threatened or endangered species on BLM lands in New Mexico.
3. The New Mexico Department of Agriculture administers the permitting for the collection native plants.

Statutory or Regulatory Reasoning

1. Site-specific actions for federally listed threatened and endangered species shall conform to ESA procedures in Section 7, 9 and 10.
2. The proposed standard and guidelines exceed the fallback standards and guidelines 43 CFR Ch.11 §4180.2(f); address the minimum standards requirements of 43 CFR Ch.11 §4180.2(d); and address the minimum guidelines requirements of 43 CFR Ch.11 §4180.2(e) and ensure that the conditions set forth in 43 CFR Ch.11 §4180.1(a) through (d) are achieved.

Standard

Watershed Health (Upland): Satisfactory upland conditions are maintaining soil stability within ecological sites, with desired plant community and site potential as its basis, indicated by optimum infiltration, capture, and delivery of precipitation, measured against established RMP goals as determined by statutory requirements balanced with the conservation of individual, social and cultural/historic economic opportunities to promote, sustain and enhance local communities.

Watershed Health (Riparian): Sustainable riparian conditions that maintain soil stability within appropriate soil loss tolerance levels and maintaining or promoting stream channel morphology for each ecological site, measured against established RMP goals as determined by statutory requirements balanced with the conservation of individual, social and cultural/historic economic opportunities to promote, sustain and enhance local communities.

Grazing Guidelines

For the purposes of maintaining or promoting subsurface soil conditions that support permeability rates appropriate to climate and soils; maintaining, improving or restoring riparian-wetland functions including dissipation, sediment capture, groundwater recharge, and stream bank stability; maintaining or promoting stream channel morphology (e.g. gradient, width/depth ratio, channel roughness and sinuosity) and functions appropriate to climate and landform; maintaining, restoring or enhancing water quality to meet management objectives, such as meeting wildlife needs

- a. Upland and riparian monitoring protocol will be developed at the local level on a site-specific basis.
- b. Under specifically established RMP production goals, monitoring protocols and upland/riparian desired future conditions, grazing practices should provide for satisfactory or long term sustainable conditions to meet statutory requirements, established uses, and protection of the soils to not exceed acceptable soil loss tolerances, thereby assuring a full range of options for future land management decisions.

Fundamental Guideline: Management Guidelines are any reasonable and practical management options that move rangelands toward statewide standards. Guidelines are based on long term scientific data and trends, past and present management experience, and public input. Guidelines are developed and implemented at the local or allotment level and should be reflected in the management plan.

State Primacy Considerations

1. The planning for and management of soil and water resources belong to the New Mexico Soil and Water Conservation Districts.
2. The jurisdiction over water quantity in streams and impoundments belongs to the New Mexico State Engineer.
3. The jurisdiction over water quality belongs to the New Mexico Water Quality Control Commission and the Environment Department.

Statutory or Regulatory Reasoning

1. Under 43 CFR §1610.4-4(e) and (g) the agency is required to consider the ability of the resource area to

respond to local needs when formulating reasonable alternatives.

2. The reasoning behind deferring to the water quality jurisdiction of New Mexico is located in 43 CFR Ch.11§4180.1(c).
3. The proposed standard and guidelines exceed the fallback standards and guidelines 43 CFR Ch.11 §4180.2(f); address the minimum standards requirements of 43 CFR Ch.11§4180.2(d); and address the minimum guidelines requirements of 43 CFR Ch.11 §4180.2(e) and ensure that the conditions set forth in 43 CFR Ch.11 §4180.1(a) through (d) are achieved.

Comments

1. Upland and riparian management are inextricable. Therefore, management prescriptions must take the conditions of both into consideration. This consideration must be made even if the uplands or riparian areas are private property or under New Mexico's or other Federal agency's jurisdiction.

Standard

Human Dimension: Established RMP production goals of sustainable goods and services per the Multiple Use Sustained Yield Act, and other statutory requirements, shall be maintained balanced with the conservation of individual, social and cultural/historic economic opportunities to promote, sustain and enhance local communities.

Meaning that: New Mexico BLM in coordination with state, tribal and local governments, individuals and other concerned public and private organizations will use available means and measures to create and maintain conditions under which people and nature can coexist. They will initiate an approach to public land management that is integrated with social, cultural, ecological and economic goals of local communities while sustaining ecological sites.

Grazing Guidelines

- a. The natural resources of New Mexico should be managed to contribute to a diverse, balanced, competitive and resilient economy and to provide

opportunity, a variety of individual choice and risk taking in a responsible manner. This guideline may include but is not limited to consideration of impacts to employment, earnings, per capita income, investment income, federal government payments to the State, Tribal and Local governments, and tax base.

b. Historic production patterns from the natural resource will serve as the baseline for future production decisions. Deviation away from the historic patterns must be analyzed with respect to local community impacts.

Fundamental Guideline: Management Guidelines are any reasonable and practical management options that move rangelands toward statewide standards. Guidelines are based on long term scientific data and trends, past and present management experience, and public input. Guidelines are developed and implemented at the local or allotment level and should be reflected in the management plan.

State Primacy Considerations

1. The primary jurisdiction over the health, welfare and safety of New Mexico citizens belongs to the State, Tribal, County and Municipal governments.

Statutory or Regulatory Reasoning

1. Under 43 CFR 1610.4-4(e) and (g) the agency is required to consider the ability of the resource area to respond to local needs when formulating reasonable alternatives.

2. The proposed standard and guidelines exceed the fallback standards and guidelines 43 CFR Ch.11 §4180.2(f); address the minimum standards requirements of 43 CFR Ch.11 §4180.2(d); and address the minimum guidelines requirements of 43 CFR Ch.11 §4180.2(e) and ensure that the conditions set forth in 43 CFR Ch.11 §4180.1(a) through (d) are achieved.

developed at the national level with public input from a variety of interested publics from across the nation. The final rules and regulations published in the *Federal Register* on February 22, 1995 state in 43 CFR 4180.2(f):

In the event that State or regional standards and guidelines are not in effect by February 12, 1997, and until such time as locally developed standards and guidelines are in effect, the fallback standards and guidelines provided in 43 CFR 4180 will go into effect and will be implemented.

The New Mexico RAC sent a request to the Secretary of the Interior requesting a six-month extension to the February 12, 1997 date for the fallback standards and guidelines to take effect. The November 25, 1996 *Federal Register* amended the regulations to allow the Secretary of the Interior discretion to postpone implementation of the fallback standards and guidelines beyond February 12, 1997, but not to exceed the six-month period ending August 12, 1997. (The full text of 43 CFR 4180, which includes the fallback standards and guidelines, is included as Appendix A.)

The fallback standards for public land health are as follows:

(a) Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

(b) Riparian-wetland areas are in properly functioning condition.

(c) Stream channel morphology (including but not limited to gradient, width/depth ratio, channel roughness and sinuosity) and functions are appropriate for climate and landform.

(d) Healthy, productive and diverse populations of native species exist and are maintained.

FALLBACK ALTERNATIVE

The fallback standards and guidelines as described in 43 CFR Subpart 4180.2 constitute another alternative that was considered. The Fallback Alternative was

The fallback guidelines for livestock grazing are as follows:

(a) Management practices maintain or promote adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils;

(b) Management practices maintain or promote soil conditions that support permeability rates that are appropriate to climate and soils;

(c) Management practices maintain or promote sufficient residual vegetation to maintain, improve or restore riparian-wetland functions of energy dissipation, sediment capture, groundwater recharge and stream bank stability.

(d) Management practices maintain or promote stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions that are appropriate to climate and landform;

(e) Management practices maintain or promote the appropriate kinds and amounts of soil organisms, plants and animals to support the hydrologic cycle, nutrient cycle, and energy flow;

(f) Management practices maintain or promote the physical and biological conditions necessary to sustain native populations and communities;

(g) Desired species are being allowed to complete seed dissemination in 1 out of every 3 years (Management actions will promote the opportunity for seedling establishment when climatic conditions and space allow.);

(h) Conservation of federal threatened or endangered, Proposed, Category 1 and 2 candidate, and other special status species is promoted by the restoration and maintenance of their habitats;

(i) Native species are emphasized in the support of ecological function;

(j) Non-native plant species are used only in those situations in which native species are not readily available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health;

(k) Periods of rest from disturbance or livestock use during times of critical plant growth or regrowth are provided when needed to achieve healthy, properly functioning conditions (The timing and duration of use periods shall be determined by the authorized officer.);

(l) Continuous, season-long livestock use is allowed to occur only when it has been demonstrated to be consistent with achieving healthy, properly functioning ecosystems;

(m) Facilities are located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland function;

(n) The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect the ecological functions and processes of those sites; and

(o) Grazing on designated ephemeral (annual and perennial) rangeland is allowed to occur only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.

New Mexico BLM was asked to interpret what the guidelines (a through o) listed above would mean if selected by the decision maker. The following is how New Mexico BLM would interpret these guidelines.

a. Management practices maintain or promote adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils.

This means that a percent ground cover target would be established for the ecological sites. The cover target would be consistent with the capability of the site and be developed using existing research data and monitoring studies data. Ground cover could be in the form of vegetation, litter, and rock. The vegetation and litter are manageable units. Vegetative cover and litter could be a function of stocking rate (intensity of use) and distribution of animals. Over stocking could be resolved through reducing the number of animals. Distribution problems that cause too much use of desirable locations or on desirable forage plants can be resolved through a deferment program and/or through construction of range improvements such as water developments.

b. Management practices maintain or promote soil conditions that support permeability rates that are appropriate to climate and soils.

This guideline would respond to soil compaction issues. When the soil is compacted, the permeability rate is reduced. On high winter precipitation ranges, use by animals in the spring may be delayed to allow the soils to dry. Although compaction problems are not common on BLM, managed lands, in cases were

compaction is a problem, use will be deferred until grazing can occur without unacceptable levels of compaction.

c. Management practices maintain or promote sufficient residual vegetation to maintain, improve or restore riparian-wetland functions of energy dissipation, sediment capture, groundwater recharge and stream bank stability.

The riparian zone normally provides numerous unique qualities that make it a concentration zone for many human and animal activities. The moist micro environment is attractive to the casual and long-term occupants of the public lands. For example, humans often use the riparian area for camping, fishing, hunting, rafting, picnicking, and transportation routes. Numerous animals, wild and domestic, depend on the riparian zone for water, green forage and other food, cover, and escape routes.

Often human and animal users of the riparian zone will continue to use the riparian zone until it is heavily used and little vegetation is left for energy dissipation and sediment capture. This heavy use will continue unless the users are forced out to let the vegetation grow. On most BLM ranges with riparian zones, fences have been used to limit grazing in the riparian zone. However, there are cases where strip fencing the riparian zone has not been and may not in the future be required.

d. Management practices maintain or promote stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions that are appropriate to climate and landform.

When the riparian zone is heavily used, the stream widens and becomes more shallow, and sedimentation/erosion is increased. On most BLM ranges with riparian zones, fences have been used to limit use in the riparian zone and stream channel. For the riparian zone to properly function, the vegetation and stream channel must be in acceptable condition.

e. Management practices maintain or promote the appropriate kinds and amounts of soil organisms, plants, and animals to support the hydrologic cycle, nutrient cycle and energy flow.

The characteristics of the soil and plant community are primary indicators of the health of the hydrologic cycle, nutrient cycle, and energy flow. The distribution or spacing of plants, litter distribution and incorporation, plant rooting depth, photosynthetic period of the community, community age classes, and seed germination are key indicators of health.

Literally this guideline says that management practices will maintain or promote appropriate kinds and amounts of soil organisms, plants, and animals.

Basically, nutrients and energy are captured by plants. Animals eat the plants and return the nutrients to the soil. Soil organisms further break down the nutrients. This process builds the soil for water storage and more plants.

The system should be in balance. The animal use of the plants needs to occur but it must be in balance with the plant forage base. A balanced system will include proper animal use (not too high or low) and grazing practices that provide for adequate ground cover for site protection and allow the native plants to complete their life cycle. If an area is out of balance, animal numbers, distribution and/or deferment should be analyzed.

f. Management practices maintain or promote the physical and biological conditions necessary to sustain native populations and communities.

This guideline establishes that management practices (grazing practices as well as rangeland improvements) will provide for physical, and biological conditions necessary to sustain (nourish and support) native wildlife and plants.

g. Desired species are being allowed to complete seed dissemination in 1 out of every 3 years (Management actions will promote the opportunity for seedling establishment when climatic conditions and space allow).

First, it should be recognized that year-long use has a different impact than growing season long use. For year-long use, all forage use does not occur during the growing season. In New Mexico with its short summer growing season, year-long use often defers about 1/2 to 3/4 of the forage for use during the dormant season.

However, the forage that is desirable by species or location may not receive a deferment. On ranges that are uniform in species, well watered, gentle sloping, and properly used, the desired species can set seed every year that the precipitation is adequate.

On the other hand, ranges that are grazed only during the growing season, rough, poorly watered, or have "ice cream" species may have to have a deferment program to achieve proper use.

h. Conservation of Federal threatened or endangered, proposed, category 1 and 2 candidate, and other special status species is promoted by the restoration and maintenance of their habitats.

Threatened and endangered species are to be protected and promoted by BLM as directed by the Endangered Species Act.

i. Native species are emphasized in the support of ecological function.

This means that programs that are developed and implemented to promote ecological function will primarily use native species. For example, fire rehabilitation programs, to increase forage, would use native species.

j. Non-native plant species are used only in those situations in which native species are not readily available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health.

This guideline is really the same as (i)- BLM and permittees can use non-native seed but the first choice is native seed.

k. Periods of rest from disturbance or livestock use during times of critical plant growth or regrowth are provided when needed to achieve healthy, properly functioning conditions (The timing and duration of use periods shall be determined by the authorized officer).

According to this guideline, if BLM authorized officer believes that growing season deferment is needed to achieve the management objectives, the authorized officer can prescribe it. The process of determining timing and duration of the use periods would include

appropriate consultation, cooperation, and coordination.

l. Continuous, season-long livestock use is allowed to occur only when it has been demonstrated to be consistent with achieving healthy, properly functioning ecosystems.

This guideline says that continuous (year-long), season-long (growing season-long every year) grazing is allowed to occur where it is demonstrated to be consistent with ecosystem function.

Although it is generally accepted that year-long use is acceptable and perhaps preferred on many southwestern ranges, this guideline would require each allotment with (1) areas not meeting the standard and (2) year-long or growing season-long livestock use to be monitored to demonstrate that the livestock management practices are acceptable. Monitoring programs would be developed through appropriate consultation, cooperation, and coordination.

m. Facilities are located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland function.

This guideline would require that constructed range improvements be moved if they are interfering with riparian objectives.

n. The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect the ecological functions and processes of those sites.

This guideline has been followed by BLM for some time; however, a review of projects and perhaps modification of older projects would be necessary.

o. Grazing on designated ephemeral (annual and perennial) rangeland is allowed to occur only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.

There are no designated ephemeral ranges on BLM-managed lands in New Mexico at this time. Should some be designated, this guideline would apply.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DETAILED STUDY

The following alternatives were considered during scoping for this analysis, and were eliminated from detailed study.

Suitability Alternative

A number of those commenting during the scoping period suggested that BLM incorporate suitability analysis into the rangeland health standards and livestock grazing guidelines. The comments suggested that areas with steep slopes, low amounts of precipitation, or certain soils be classified as unsuitable for livestock grazing. Livestock grazing would then be stopped on the unsuitable areas.

After consideration, an alternative incorporating suitability was not developed for analysis in this EIS because it is inconsistent with BLM's current approach to grazing management. The suitability approach historically has been used by BLM as a part of the interpretation process for range surveys. In the past, range surveys or inventories were used to estimate grazing capacity in the adjudication process.

The determination of suitability or unsuitability was one step in completion of a range survey. In that process, areas classified as unsuitable were rated as having a zero capacity by the survey. The unsuitable lands were often intermixed with suitable areas within a given area. Therefore, suitability was used only for a level of expected forage use and was not used to determine if grazing should be eliminated.

Currently, BLM uses rangeland monitoring data to adjust livestock grazing capacity information rather than the one-time forage surveys. By using monitoring to evaluate grazing capacity, BLM focuses on looking at the effects of grazing on-the-ground as opposed to projecting possible effects. Because BLM now uses a more up-to-date technique of rangeland monitoring

rather than the older method, suitability is no longer used and thus is not considered as a viable alternative.

No Grazing Alternative

This alternative has been analyzed in detail in the national Rangeland Reform '94 EIS, and in previous EIS documents. Livestock grazing is authorized by law and regulation, and is well established within the BLMs multiple-use mandate. Resource conditions do not warrant a statewide prohibition of livestock grazing. Analysis of a no grazing alternative is not considered feasible or necessary.